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ABSTRACT

This paper looks beyond the language of shared decision-making and team teaching to provide insight into how the norms of Individually Guided Education are translated into specific adoption outcomes. Its purposes are (1) to explicate the historical context and assumptions about the nature of schooling and the role of the teacher that are implicit in the consideration of IGE as a reform program: (2) to relate these assumptions to the parameters and importance of user system participation in research sites utilizing Rogers and Shoemaker's consonant-dissonant adopter typology: and (3) to consider the implication of the Studies of Implementation research for the broader area of innovation adoption. Analyses reveal that change models which assume organizations operate as a unit are inadequate in depicting and predicting the complexities of the change process. It reaffirms the value of explicating the theoretical framework which forms the origin for questions, of participation in a particular organizational system. Finally, it focuses critical attention on the role of participation in the IGE adoption process. The study concludes with an exploration of possibilities for further research. (Author/PAA)

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FACTORS INFLUENCING ADOPTION OF THE IGE INNOVATION

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Background and Orientation

As part of the Wisconsin Research and Development Center's research related to the implementation of Individually Guided Education (IGE), the Studies of Implementation Project was funded in 1978 by the National Institute of Education to conduct a longitudinal study of the planned educational change process. The focus of the research was to identify and interrelate significant factors which affected the innovative process in selected schools, and to explore the relationship of these factors to subsequent adaptations in innovative practice.

Employing a combination of purposive and stratified random sampling, ten Wisconsin schools were identified which were committed to implementing the Instructional Programming Model (IPM), the central concept of the Individually Guided Education (IGE) innovation. Three additional schools in another state were also identified that had adopted Developing Mathematical Processes (DMP), a curricular expression of the IPM. Those schools will not be included in this discussion since they had not adopted the organizational innovation IGE. Year-one data were collected in the research sites using a combination of quantitative instrumentation and field research techniques in order to answer the first of four research questions: What factors affect the decision to adopt an innovation (the IPM)?

To facilitate analysis of the schools' adoption events from a multi-dimensional perspective, the research sites' adoption

histories were examined relative to assumptions and events delineated by six widely disseminated change models. These models included three models identified by Havelock (1969): the Problem-Solving Model, the Social Interaction Model, and the Research, Development, and Diffusion Model; two synthesis models: Havelock's Linkage Model and Hall's (1973) Concerns-Based Adoption Model (CBAM); and the IGE Model.

The results of the analyses indicated that none of the six models was useful in depicting or predicting the adoption sequences in the research sites. This inadequacy was perceived as stemming from two assumptions central to a number of the models which were not met in the school sites: (a) that the stimulus for seeking an innovation is awareness of an educational problem; and (b) that the teacher or user system (that is, those individuals who apply the innovation to the client group) plays an active role in the adoption process (Barrows et al., 1979). Table 1 illustrates the congruence between these assumptions and the actual adoption experiences in the research sites.

That models of change in general fail to capture specific dynamics and complexitites of the change process has been well documented (see, for example, Berman & McLaughlin, 1978; Downs & Mohr, 1979; Paulston, 1977) and is hardly surprising. However, since IGE was the innovation of focus in the research sites, it would appear reasonable to expect at least a moderate degree of fidelity between the specifications of this model and the actual IGE adoption experiences in these school districts. As documented in Table 2,

Table 1

CONGRUENCE BETWEEN RESEARCH SITE ADOPTION SEQUENCES

AND PRIMARY CHANGE MODEL ASSUMPTIONS

Studies of Implementation Research Sites	ASSUMPTION #1: Adoption Stimulus is Awareness of an Educational Problem	ASSUMPTION #2: User System Plays an Active Role in the Adoption Process
Lewis	0	0[5]
Star	0[1]	0
Arrow	0	0
Mercury	0[2]	0[5]
Meadow	0	0
Sawyer	0	0
Rise	X[3]	X
North	0	X
Davis	X[4]	0
York	0[2]	0[5]

KEY: X = Assumption met 0 = Assumption not met

NOTES: [1] = a socio-political problem, the need to respond to a desegregation order.

[2] = a practical problem, the need to build a new school because of overcrowding.

[3] = an educational problem, the need to respond to non-achieving students.

[4] = an educational problem, the need to unify the instructional policy of the district.

[5] = user system did not exist at time of formal adoption decision.

Table 2

FIDELITY BETWEEN SPECIFICATIONS OF IGE MODEL

AND RESEARCH SITE ADOPTION EXPERIENCES

Specifications of IGE Implementation Model[1]	Studies of Implementation Research Sites									
	Lewis	Star	Arrow	Mercury	Meadow	Sawyer	Rise	North	Davis	York
1. Innovation to be adopted is IGE.	X	X	X	X	X	X	X	X	X	X
2. IGE is simultaneously adopted school-wide.	X	X	0	X	0	X	0	X	0	X
3. R & D Center initiates contact with the user system during adoption.	0[2]	0	0	0[2]	0	0	X	0	0	0[2]
4. Training/information are provided to the user system (teachers) by R & D Center, or their recognized representatives.	X	X	X	X	X	X	X	X	X	X
5. Inservice training is provided to school principal(s) and teachers prior to implementation of IGE.	X	X	X	X	0	0	X	X	X	X
6. IGE adoption is formalized by school officials and the implementation agency.	X	X	X	X	X	X	X	X	X	X
7. The user system is given the option to reject or accept IGE.	0[2]	0	0	0[2]	0	0	X	X	0	0[2]

KEY: X = Specification met 0 = Specification not met

NOTE: [1] = As identified by Barrows, L. K. et al. The Adoption of Innovations in Schools. Technical Report 529. Madison: Wisconsin Research and Development Center for Individualized Schooling, 1979.

[2] = Since a new school was created, teachers did not exist as a staff at the time of the formal adoption decision.

however, all of the requirements of the IGE model were met in only one of the ten Wisconsin sites. Closer examination of Table 2 reveals that the two specifications which were met least often (specification numbers 3 and 7) both deal with the role of the user system. Specifically, in eight out of the ten school districts, teachers were not only not involved in the IGE adoption process until after the formal adoption decision had been made, but were not given the opportunity to confirm or reject that decision.

The change literature embraces both vigorous discussions and mounting social science research on the participation phenomenon. While little has been concluded about the change-participation relationship in any systematic sense, general agreement seems to exist regarding the potential importance of "broad-based support" (Berman & McLaughlin, 1978), "shared authority" (Greiner, 1967), or in general, the concept of subordinate participation in the change process (e.g., Argyris, 1964; Conway, 1976; Dachler & Wilpert, 1978; Fullan & Pomfret, 1977). The IGE literature supports the efficacy of this strategy, maintaining that "shared decision making is essential to ensure that individual initiatives are respected, role definitions are accepted, and work responsibilities are assumed" (Klausmeier, 1977, p. 7). The discrepancy between the emphasis on user system participation in the change process and the conspicuous absence of teacher participation chronicled in the actual adoption experiences makes the role of the user system in the IGE adoption context problematic.

The purpose of this paper, therefore, is threefold:

1. to explicate the historical context and assumptions about the nature of schooling and about the role of the teacher that are implicit in the consideration of IGE as a reform program;
2. to relate these assumptions to the parameters and importance of user system participation in the research sites utilizing Rogers and Shoemakers' (1971) consonant-dissonant adopter typology; and,
3. to consider the implications of the Studies of Implementation research for the broader area of innovation adoption.

The paper will attempt to look beyond the language of shared decision making and team teaching in order to provide insight into how the norms of IGE are translated into specific adoption outcomes.

Overview of IGE

Growing in part out of the aspirations of an emerging industrial society and the accompanying pressure for and perceived value of technological efficiency, the field of curriculum development during the 1950's and 60's continued to be typified by an essentially efficiency-oriented rhetoric. It was in this educational mileau, in the aftermath of Sputnik and the 1958 National Defense Education Act, that Individually Guided Education emerged as a major educational innovation.

IGE was conceptualized and developed in response to specific concerns about the self-contained, age-graded system of elementary

education. A systems analysis approach was utilized by IGE planners to develop and operationalize a model incorporating seven interrelated components of the school organization (see Figure 1). These components consist of (a) the multiunit organizational-administrative arrangements; (b) evaluation for educational decision making; (c) curricular materials compatible with IGE; (d) home-school-community relations; (e) facilitative environments for IGE; and (f) the continuing research and development necessary to improve IGE (Klausmeier et al., 1971). The thrust of this model was to "provide quality education that yields high student achievement, develops the abilities underlying those achievements, and contributes to healthy personality development (Lipham & Fruth, 1976, p. 7) and to create "fuller commitments to shared goals. . . and increased satisfaction for each person involved in the educational process" (Lipham & Fruth, 1976, p. 10).

In 1971, the R & D Center was funded to begin implementation of the seven components of the IGE system, and a five-phase strategy was developed to provide guidelines for the implementation effort. The five phases delineated by the IGE model include (a) awareness of IGE; (b) commitment to IGE; (c) changeover and training in IGE; (d) refinement of IGE teaching practices through staff development; and, (e) renewal and improvement of existing IGE practices. The basic components and their implementation strategy represent the result of "development, testing, and refinement of a carefully designed alternative (to) facilitate more effective teaching and learning in the schools" (Klausmeier, 1977, p. 4). The subsequent discussion considers both the components and the implementation model together as the IGE adoption context.

Figure 1. Major Components of Individually Guided Education.

Source: Klausmeier, H. J.; Quilling, M. R.; Sorenson, J. S.; Way, R. S.; and Glasrud, G. W. IGE: Individually Guided Education and the Multiunit School: Guidelines for Implementation. Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1971.

IGE as Systems Management

As conceived by the developers, IGE is a universal model of schooling whose instructional components and organizational arrangements can be adopted by any school, and whose implementation results in students "achieving more than in other kinds of schools" (Klausmeier, 1977, p. 7). This conception of schooling contains a number of implicit assumptions which impact the nature of education and the role of the user system within the IGE context. Three of the most basic of these assumptions will be reviewed with specific reference to the IGE model and to the common theme of consensus. The implications of of these assumptions will then be considered for the role of the user system.

The IGE model assumes that a "maximum education" exists, and that the failu e by schools to provide this optimum educational experience can be corrected. Klausmeier (1977, p. 3) cites "distressing findings" with respect to reading deficiencies, illiteracy, and the drop-out rate, which "appear to be related to conditions which are unfortunately found in many elementary schools. . . ." IGE is proposed as an alternative to these unfavorable conditions which can be implemented "without destroying public education or eliminating any effective practices" (Klausmeier, 1977, p. 3). The precise nature of the hypothesized relationship between the "distressing findings" and such practices as age-graded classes and textbooks is not specified, nor is it clear why IGE as an alternative should be or is related to a decrease in these undesirable statistics.

Second, the model assumes that remediation such as that proposed by IGE can be most efficiently and effectively guided by scientific research and rational planning procedures and that the results of such procedures should be the basis for educational decision making. The early IGE literature emphasizes the extensive research conducted through Project MODELS (Maximizing Opportunities for Development and Experimentation in Learning in the Schools) which preceded the implementation of the first nongraded, Instruction and Research (I & R) Units (e.g., Klausmeier et al., 1966; 1967). The role and results of such research and evaluation appeal to and are legitimized by the efficiency rationale exemplified in the earlier writings of Taylor (1911), Charters (1923), and Tyler (1949), and are an integral part of the IGE model.

The Instructional Programming Model (IPM), the core of the IGE system, epitomizes the IGE application of rational planning and evaluation procedures to classroom instruction. As illustrated by Figure 2, the IPM can be viewed as exemplifying basic systems planning concepts: (a) the program objectives are defined in measurable terms; (b) instruction is organized and developed to bring students from Point A to Point B with maximum efficiency; (c) evaluation occurs systematically by comparing student results to the expected levels of performance. The information received from the evaluation is to be used by the decision maker to help keep the system running smoothly. The IPM thus exemplifies that belief in the efficacy of rational planning procedures which constitutes the underpinnings of the IGE phil-

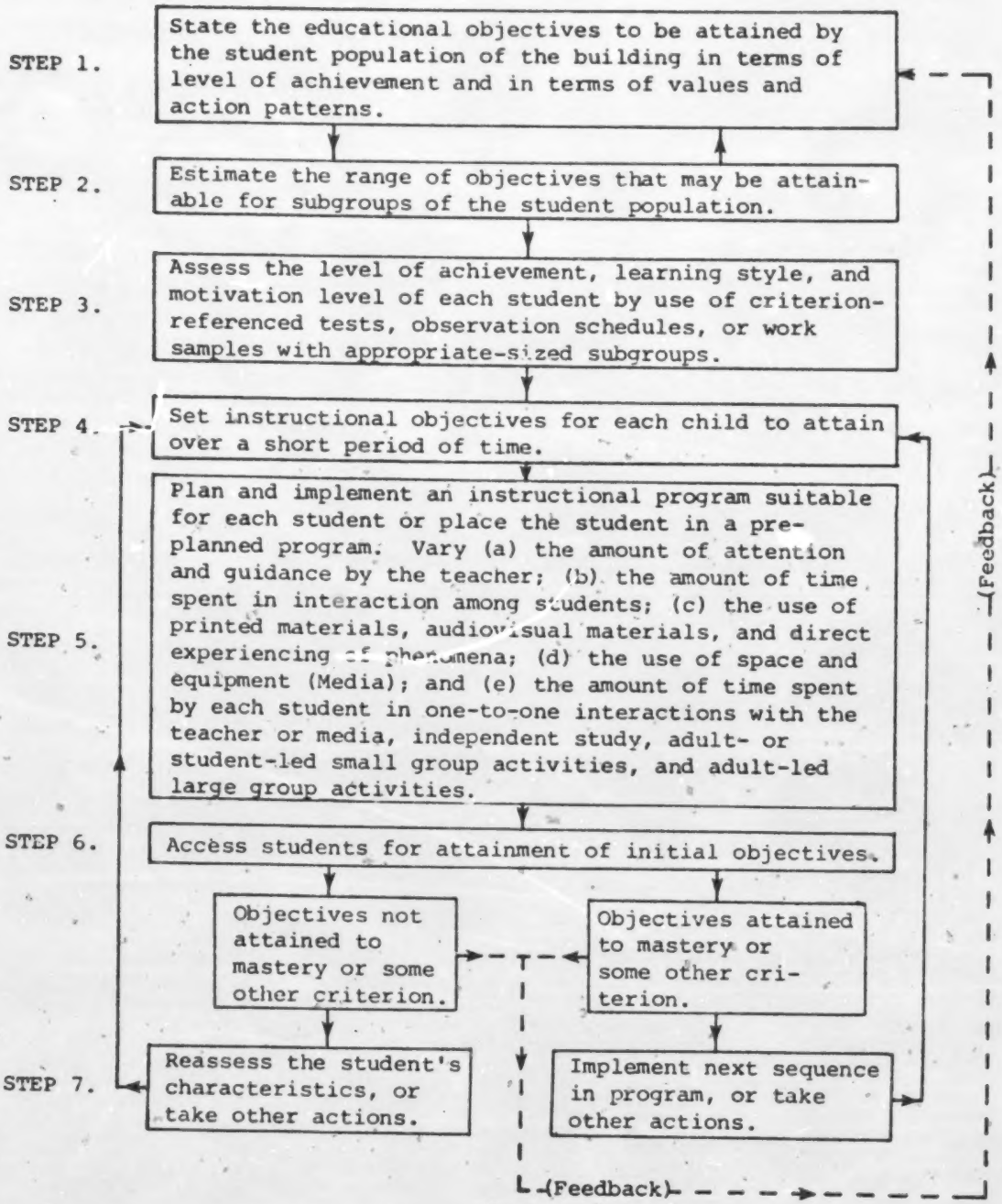
STEP 1.
State the educational objectives to be attained by the student population of the building in terms of level of achievement and in terms of values and action patterns.
STEP 2.
Estimate the range of objectives that may be attainable for subgroups of the student population.
STEP 3.
Assess the level of achievement, learning style, and motivation level of each student by use of criterion-referenced tests, observation schedules, or work samples with appropriate-sized subgroups.
STEP 4.
Set instructional objectives for each child to attain over a short period of time.
STEP 5.
Plan and implement an instructional program suitable for each student or place the student in a pre-planned program. Vary (a) the amount of attention and guidance by the teacher; (b) the amount of time spent in interaction among students; (c) the use of printed materials, audiovisual materials, and direct experiencing of phenomena; (d) the use of space and equipment (Media); and (e) the amount of time spent by each student in one-to-one interactions with the teacher or media, independent study, adult- or student-led small group activities, and adult-led large group activities.
STEP 6.
Access students for attainment of initial objectives.
Objectives not attained to mastery or some other criterion.
Objectives attained to mastery or some other criterion.
STEP 7.
Reassess the student's characteristics, or take other actions.
Implement next sequence in program, or take other actions.
(Feedback)
(Feedback)

Figure 2. Instructional Programming Model in IGE.

Source: Klausmeier et al. IGE: Individually Guided Education and the Multiunit School: Guidelines for Implementation. Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1971.

osophy, i.e., that all problem-solving proceeds according to a standard set of operations beginning from clearly stated objectives to modifying behavior/instruction based on the consequences of the evaluation. It assumes that if X student characteristic is matched with Y educational activity, a predetermined end product, i.e., more effective learning, will result. Thus, IGE constitutes, essentially, an industrial production metaphor applied to education.

A third assumption of the IGE model is that schools have clearly defined, universally agreed upon goals that provide the basis for appropriate curriculum and management decisions. Again with reference to the Instructional Programming Model as the heart of the IGE system, Klausmeier's (1977) remarks are pertinent:

> The (IPM) model is used with explicitly stated instructional objectives and related criteria of attainment which indicate that every student should attain mastery of certain objectives before completing elementary school. It is also used with other less closely specified objectives in all curricular areas. . .(Klausmeier, 1977, p. 15).

This example as representative of the IGE literature fails to address the issues of how selection of instructional objectives (either the "explicitly stated" or "less closely specified" objectives) will occur, what theory should guide their selection, or who will do the selecting. Despite voluminous literature which indicates the contrary (e.g., Pellegrin, 1973; Sarason, 1969), it is assumed by IGE developers that these objectives are at once easily identifiable and agreed upon, and that no ambiguity or disagreement will arise to hinder or coopt the efficiency of the implementation process.

IGE thus represents a conception of schooling which is guided by at least three assumptions: (a) that a maximum education exists; (b) that this maximum education is undergirded by a commonly agreed upon definition and goals; and (c) that the maximum education can be universally achieved through the application of a rational research and planning process. Further, however, the credibility and viability of these assumptions require the existence of an essentially stable society with essentially durable educational goals, i.e., the assumption of consensus.

The IGE model typifies the consensual view of people and organizational processes. Like other equilibrium change models, it ignores the reality that adoption events (or any human activities) are imbedded in a larger socio-historical-political context, and reduces the possibilities for viewing the events and activities as non-linear and idiosyncratic. Insofar as these models view adoption "failures" as departures from "rationality," ignorance, or administrative mismanagement, they fail to account for those unanticipated outcomes of planned change which are predicated on an understanding of the dimensions of power and ideological conflict. The following section provides background for exploring the implications of the consensus assumptions on the IGE adoption process by explicating the role of the user system as defined by these assumptions.

Overview of User Participation within the Productivity and Efficiency Rationale

Greenberg (1975) and Dachler and Wilpert (1978) identify four equivalent theories or value orientations as the origin for issues of user or subordinate participation in decision making:

Greenberg (1975)		Dachler and Wilpert (1978)
Democratic Theory	→	Democratic Theory
Participatory Left Theory	→	Socialist Theory
Humanistic Psychology Theory	→	Human Growth and Development Theory
Management School Theory	→	Productivity and Efficiency Theory

These schools of thought differ regarding the assumptions upon which the concern with participation is predicated, the intensity and scope of the participatory arrangement, and the predicted outcomes of such participation. Table 3 provides an overview of these dimensions with respect to the four theories.

It is recognized that such orientations are more clearly distinguishable theoretically than practically. This is apparent when drawing parallels between them and the IGE participatory system. However, grounded in the previous interpretation of IGE from a systems perspective and considering the total organizational context as described by each theory, there appears to be more than adequate justification for examining participation in relation to Greenberg's Management School or Dachler and Wilpert's Productivity and Efficiency theory.

The productivity and efficiency orientation incorporates ideas from various theoretical viewpoints including systems management (e.g., Baumol, 1972; Katz & Kahn, 1966), all of which share a normative assumption that effective organizations should operate as rational value-maximizers. The central element of rationality is goal-directed behavior; organizations are effective to the extent that they maximize performance on their essential goals and objectives. Subordinate participation is one technique employed to attain such maximum performance through intermediate outcomes including higher morale (Morse & Reimer, 1956), greater commitment to organizational goals (Coch & French, 1948), and higher-quality work (Coch & French, 1948; Morse &

Table 3

DESCRIPTIVE DIMENSIONS OF FOUR THEORIES OF SUBORDINATE PARTICIPATION[1]

Theory	Underlying Assumption(s)	Intensity of Participation	Scope of Participation	Desired Outcomes
Democratic	The inherent collective wisdom and intelligence of people represents a good basis for effective social decision making. The democratic process educates and develops participants.	High	Wide	Closer approach to moral standard of a free and truly democratic society.
Participatory Left/ Socialist	People can become economically liberated by participating actively in the production process and ultimately controlling it.	High	Wide	Revolutionary change in total societal system toward goal of creating proletarian culture.
Humanistic Psychology/ Human Growth and Development	There exists a basic hierarchy of human needs which culminates in a need for self-actualization and growth. This growth is achievable in the workplace through strategies such as participation.	High	Narrow	Facilitation of psychological development and growth of individuals.
Management School/ Productivity and Efficiency	People are manipulable toward maximum output through appropriate social technologies.	Low	Narrow	Stability of existing social order, increase of industrial productivity and efficiency, avoidance of labor problems.

[1] Adapted from: Dachler, J., and Wilpert, B. Conceptual dimensions and boundaries of participation in organizations: A critical evaluation. Administrative Science Quarterly, 1978, 23, 1-39.

Greenberg, E. S. The consequences of worker participation: A clarification of the theoretical literature. Social Science Quarterly, 1975, 56, 191-209.

Reimer, 1956). No alteration in the traditional labor-management relationship is intended. Participatory arrangements are characteristically limited in scope and under the control of management so that there is no challenge to the basic power prerogatives of the decision makers. "The goal remains productivity, efficiency, and profitability, and the limited reforms in participation must be seen in that light" (Greenberg, 1975, p. 194).

IGE Participation as Rhetoric

These general parameters of participation within the productivity and efficiency tradition coincide surprisingly well with the participation potential within IGE schools. The IGE school is portrayed in the literature as a rational value-maximizing institution which requires goal-directed behavior, as illustrated by the following excerpt:

> The multiunit form of organization possesses important implications for roles and responsibilities of each staff member. Every person in the multiunit organization fills an important role, and each role has certain expectations associated with it. Unless the role definitions are clear to everyone and are fulfilled as expected, the designated programmatic thrusts of the IGE school will not be carried out adequately at the proper organizational levels. It is essential, therefore, for IGE staff members to understand and internalize their respective roles (Lipham et al., 1977, p. 32).

The role of the IGE teacher is defined as that of a skilled "manager of time, space, and material resources at the instructional level" (Lipham et al., 1977, p. 34); the goals of IGE are maximized to the extent that teachers accept this role and apply it in the implementation of the IGE components. Table 4 uses these seven components as organizing elements to outline the specifics of what the IGE literature terms "the expanded role of the teacher in an IGE school" (Nussel et al., 1976, p. 289). To provide additional comparative information

Table 4

THE ROLE OF THE TEACHER/USER SYSTEM IN THE IGE COMPONENTS ACCORDING TO THE INNOVATION DEVELOPERS[1]

IGE Component	Teacher/User System Role
1. Multiunit Organization	Pre- and post-testing Designing individualized packets Conducting lectures, discussions, and field trips Demonstrating library skills Using media for demonstrations Diagnosing necessary skill development
2. Instructional Programming Model	Developing instructional objectives Identifying activities to meet the objectives Locating appropriate materials Organizing assessment, including monitoring daily progress Holding teacher/student conferences
3. Evaluation for Decision Making	Examining student objectives Determining appropriateness of student objectives Utilizing criterion-referenced tests Charting and analyzing student growth
4. Compatible Curriculum Materials	Identifying and developing curriculum materials
5. Home-school-community Relations	Explaining to parents how IGE is implemented Being visible in parent/teacher organizations and other community activities
6. Facilitative Environments	Sharing personnel, ideas, and resources for the mutual support of IGE schools
7. Continuing Research and Development	Deciding on program revision and development in response to student success.

[1]Adapted from Nussel, E.J. et al., The Teacher and Individually Guided Education. Reading, Massachusetts: Addison-Wesley Publishing Co., 1976, pp. 289-297.

regarding the user system, Table 5 outlines the role of the teacher in the phases of the IGE implementation model (Evers et al., 1975, pp. 17-19).

When these two tables are juxtaposed, the emerging picture of direct user system participation in the IGE model is characteristic of participation as defined previously in the productivity and efficiency tradition. That is, direct participation is essentially restricted to those decisions related to task accomplishment (specifically, those decisions concerned with planning, implementing, and evaluating the instructional program and reporting on educational outcomes, decisions traditionally already the domain of the teacher) and does not include a broader range of policy issues in the participatory domain. Greenberg's (1975) conclusion about the tacit meaning of this type of participation is also applicable to IGE schools: "The goal. . .remains one of instituting limited reforms that will lead to better worker morale, lower absenteeism, a greater commitment to company goals. . .in the final analysis it (participation) is expedient rather than humanitarian" (Greenberg, 1975, p. 194).

The Implications of Efficiency for IGE Adoption

The previous analysis of IGE and of the role of participation indicated that:

1. IGE, as a systems model, is based on a normative assumption of consensus; and
2. participation within the IGE context ideally functions to maintain stability and increase efficiency.

Table 5

THE ROLE OF THE TEACHER/USER SYSTEM IN THE IGE IMPLEMENTATION MODEL[1]

IGE Model Phase	Teacher/User System Role
Awareness	Receiving information regarding IGE (for a few "key" teachers identified by the administration)
Commitment	Receiving information regarding IGE Making commitment to adopt/not to adopt
Changeover	Being instructed in IGE concepts and practices Developing specific first-year plans Participating in ongoing staff development
Refinement	Discovering that new understandings and skills are required to refine implementation efforts
Renewal	Identifying and resolving problems Developing improved implementation strategies

[1] Adapted from Evers, N., et al. IGE Implementor's Manual. Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1975, pp. 14-19.

This section will view the Studies of Implementation finding of limited user participation in light of these assumptions, and will explore the consequences of such assumptions for the IGE adoption process.

In analyzing the role of user participation in the adoption experiences of the research sites, the Studies of Implementation defined individuals' response to innovation adoption as legitimization, either facilitative and/or permissive. Facilitative legitimization was said to have occurred when individuals actively solicited adoption of the innovation. Permissive legitimization was said to have occurred when individuals assumed a passive posture and permitted adoption to occur without overtly helping or hindering the process. Permissive legitimization was further defined as implying "an implicit sanctioning of the actions of others as they relate to the adoption of the innovation" (Barrows et al., 1979, p. 173).

While these categories are grounded in the adoption experiences of the research sites and are useful in describing the overt participation (or lack of it) that occurred in the school systems, this focus does not go far enough in recognizing the complexities and possibilities of value conflict, subversion, and cooptation on the part of the user system. The term "legitimization" in itself implies a consensus goal of efficient, universal adoption, and restricts the role of the user system to that of consonant adopters. It does not take into account those user system members who neither explicitly nor implicitly support

innovation adoption, i.e., dissonant adopters.

Consonant and dissonant adopters are two of the terms utilized by Rogers and Shoemaker (1971) to describe what they term "dissonant-consonant types" (Rogers & Shoemaker, 1971, p. 311). Table 6 presents the complete typology, which gives focus to the possibility of conflicts between users' personal values and overt organizational expectations. Rogers and Shoemaker (1971, p. 311) define the discrepancy between an individual's attitude toward an innovation and the overt adoption or rejection behavior demanded by the decision unit as "innovation dissonance." The arrows in the table indicate pressure for the resolution of this dissonance. Since the Studies of Implementation research involved only adopters of the IGE innovation, the following section discusses the IGE parameters with respect only to consonant and dissonant adopters.

Consonant Adopters

The Consonant Adopter demonstrates a favorable attitude toward the innovation in agreement with the organizational demand for adoption. Innovation dissonance does not exist, at least initially, since there is no discrepancy between the individual's attitudes and the required organizational behavior.

The significance of the IGE normative model for the role of the Consonant Adopter lies in the extent to which the language of goal consensus functions to influence teachers to identify with and modify their behavior in accordance with this role. An example from the IGE

Table 6

FOUR DISSONANT-CONSONANT TYPES ON THE BASIS OF INDIVIDUAL ATTITUDES TOWARD AN INNOVATION AND THE OVERT BEHAVIOR DEMANDED BY THE ORGANIZATION

Member's Attitude Toward the Innovation	Overt Behavior Demanded by the Formal Organization	
	Rejection	Adoption
Unfavorable	I Consonant Rejector	II Dissonant Adopter
Favorable	III Dissonant Rejector	IV Consonant Adopter

Source: Rogers, E. M., and Shoemaker, F. F. Communication of Innovations: A Cross-Cultural Approach. New York: The Free Press, 1971, p. 311.

literature illustrates this by now familiar emphasis on consonance:

> We value our individual liberties and rights. At the same time, we realize that we have become increasingly inter-dependent and must be concerned with the common good and welfare. Therefore, in a social organization such as a school we agree on who carries out which roles and performs the related responsibilities. This is necessary in order to provide quality instruction to children and at the same time to enable each staff member to experience a high measure of personal satisfaction and professional self-realization. Having those values requires that all of the participants. . .agree upon the responsibilities as well as the rights of the affected individuals and groups (Klausmeier, 1977, p. 7).

As noted by Popkewitz (1976), the very abstractness of purpose statements such as "to provide quality instruction to children" permits individuals with diverse beliefs and practices to accept these ambiguous goals and instructional policies without feelings of contradiction. In this excerpt, consonance is further reinforced by the strong consensus norm implied in the language of "we value. . .," "we realize. . .," and "we agree. . .."

The rhetoric of participation also impacts the individual adopter to influence him or her to become a Consonant Adopter. The participation literature is replete with examples of the utilization of shared decision making as a technique to assure greater commitment to (or consonance with) organizational goals (e.g., Coch & French, 1949; Lewin, 1947; Lowin, 1968; Mayo, 1924). The IGE developers also subscribed to this function of participation, noting that "when staff members are not involved sufficiently, they will tend to implement decisions (made by the principal) with somewhat less than full commitment" (Walter & Lipham, 1976, p. 57). The unit leader, a teacher and the instructional leader for the unit, is told that he or she "must be able to translate the details of the (unit decision making) process in

such a way that the unit staff will feel committed and cooperatively implement the decision. . . . The goals are consensus and commitment" (Inglis, 1976, pp. 146-147). The progress of the assumptions in these examples leads the adopter in a logical sequence from participation to consonance. Although "sufficient" involvement is never defined, it is implied that presence of this sufficient level of participation leads to full commitment, and that full commitment results in approrpiate innovation implementation. Since the IGE literature and language are inundated with references to "shared decision making (as) a basic distinguishing characteristic of the IGE multiunit school" (Walter & Lipham, 1976, p. 56), the very presence of these continual references makes the participation concept an integral part of the institutional structure of IGE. Thus, the overt language of IGE emphasizes participation; the behavioral parameters allowed by the language, however, correspond to and reinforce a tacit emphasis on consonance.

Dissonant Adopters

The Dissonant Adopter has an unfavorable attitude toward the innovation but the organization demands overt adoption (Rogers & Shoemaker, 1971, p. 311). Rogers and Shoemaker apply Festinger's (1957) balance theory of tension reduction to suggest that, over time, individuals attempt to reduce their dissonance through (a) changing their own attitudes to make them more consonant with the behavior demanded by the organization, or (b) discontinuing or misusing the innovation or circumventing the adoption edict to make their organizational behavior consonant with their attitudes.

Within the IGE context, the concept of dissonance or conflict receives minimal recognition. The following excerpt, one of only two substantive references to conflict in the text dealing with the teacher and IGE, is representative of the extent and focus of such recognition:

> Although there doesn't appear to be an endorsement to produce conflict in a multiunit school, the patterns of interaction between humans in such a setting can produce conflict situations. For example, the members of a unit staff might disagree on the best way to achieve certain instructional outcomes. The disagreement might run very deep and strike at the depths of the individual's educational philosophy. Resentment and bitterness can destroy the effectiveness of the I & R unit in such a debate unless the teachers understand the inevitability of conflict and are prepared to use conflict (hopefully not physical) as a means to solve problems. . . . In other words, can conflict be utilized as a problem-solving method and not be internalized with 'personal hurt,' which destroys the instructional objectives of the unit (Nussel et al., 1976, p. 35)?

This view of conflict contains a number of implications and limitations for the role of the Dissonant Adopter. Although conflict is overtly recognized as "inevitable," it is also viewed by these authors as dysfunctional to the degree that it fails to be utilized as a problem-solving, consensus-making strategy. Further, the language of the excerpt implies that if conflict is not applied as a method to "solve" problems, resentment, bitterness, and "personal hurt" may result, and that such conflict will thus ultimately destroy the effectiveness of the instructional unit. Finally, it is perhaps not surprising that the conflict situation example deals with the technical issue of how to achieve "certain instructional outcomes" and not with the substantive policy issue of what outcomes

are to be achieved.

It appears reasonable to conclude from the previous discussions in general and the above example in particular that the IGE model applies the language of conflict to further the socialization and secure the compliance of the overtly Dissonant Adopter. Katz and Kahn (1966) view this socialization function as one of the organization's maintenance subsystems which operates to assure that people put the requirements of their formal roles above their personal preferences (i.e., make their attitudes more consonant with the required organizational behavior). Elmore (1978, p. 193) calls it "shaping the decision makers." Regardless of its title, however, the net effect of this view of conflict as a disruptive force that has to be controlled or resolved is to reduce the possibility of a forum for meaningful discussion and participation and to enhance the predictability and control of subordinate behavior.

The hypothesized role of participation in reinforcing the complacency of the Consonant Adopter has been discussed. The same participation role (or lack of it) can have very different consequences for the Dissonant Adopter.

Festinger's (1957) balance theory suggests that individuals act in one of several ways to reduce personal dissonance. The theory further suggests that individuals choose the alternative which is easiest to achieve; Rogers and Shoemaker (1971) postulate that in formal organizations this usually means that individuals change their attitudes to conform to the required organizational behavior.

Much of the participation literature suggests attitude changes and consequent behavioral changes based on decisional involvement. As previously noted, the IGE model predicts that an increased sense of commitment and increased implementation efficiency result from teacher decisional participation. However, researchers have agreed that whether participation has these results depends in part on an organizational context which allows meaningful outcomes to occur as a consequence of such involvement (Blumberg, 1969; Katz, 1964; Lowin, 1968; Walker, 1974).

Despite the rhetoric about the "expanded role of the teacher" in IGE schools (Nussel et al., 1974, p. 287), the tasks and responsibilities which form the context for shared decision making (see Tables 4 and 5) include only technical issues. This limited range of decisional issues restricts the possibility for affecting policy outcomes. In addition, the consensus interpretation of participation also functions to limit both the opportunity for substantive debate and the possibility for meaningful outcomes. An hypothesized result of the restricted role of participation is that the Dissonant Adopter (or even the uncommitted "wait and see-er") has an extremely limited forum within which to meaningfully discuss his or her unfavorable attitudes and/or problems. These individuals have a number of alternatives: they can transfer or quit, they can ignore the dissonance, or they can assume the overt posture of a Consonant Adopter while finding ways to circumvent the adoption decision and of resolving their dissonance by making their implementation behavior conform to their personal attitudes. Thus, the consensus assumptions and

expedient role of participation in the IGE model can contribute to overt compliance and tacit misuse or nonuse of the innovation on the part of the Dissonant Adopter.

Consonance and Dissonance in the Studies of Implementation's Research Sites

Examining the usefulness of Rogers and Shoemaker's typology to understanding the adoption experiences in the Studies of Implementation's research sites requires data on both the type of adoption decision (e.g., authoritative or participative) and individual teachers' attitudes toward IGE over time. The original focus of the study did not include the collection of individual attitudinal data, and the aggregated perceptions which were utilized to compile the adoption histories cannot be assumed to imply consonance or dissonance on the part of the individual adopters. For example, Lewis School was a new IGE school, and all teachers had to request assignment there. However, the label of Consonant Adopters cannot be justified without more information regarding, for instance, how much the teachers knew about IGE at the time of their assignment decision, and what their reasons for requesting the IGE assignment were. It would seem logical to assume that a teacher who wanted a change and an opportunity to teach in a new school might not have the same motivation to implement IGE as a teacher who was familiar with the IGE philosophy and actively desired the opportunity to try it out.

Conversely, the adoption decision at Star School was a Central Office decision with no reported teacher consultation. It is premature,

however, to assume that the individual teachers were therefore Dissonant Adopters. Research has indicated that the relationship between participation and desired organizational outcomes (such as innovation implementation) may be mediated by the individuals' desire to participate (Belasco & Alutto, 1972; Inkpen et al., 1975; Mohrman et al., 1978); some of the teachers at Star School may have been comfortable with the top-down decision and desired no participation in the adoption decision. Again, additional information would be necessary to establish adopter consonance or dissonance.

Despite the fact that the existing research data do not allow for further exploration of the utility of the concept of consonant and dissonant adopters, the theoretical application of the typology in the context of the assumptions and participatory parameters of IGE has value in terms of understanding the adoption process. First, the use of the typology underscores and reaffirms the complexity of the adoption process. The terms Consonant Adopter and Dissonant Adopter are useful more as they depict "ideal types" than as they represent a dichotomized reality. One would expect to find a continuum of adoption attitudes ranging from consonance to dissonance, with an accompanying spectrum of overt behaviors.

Second, the typology is useful in giving focus to the possibility of mutually exclusive value systems on the part of individual adopters and the organization. While this possibility is noted in the literature (see Sarason, 1969, pp. 41-42), it is ignored by the commonly used consensus change models, and hence the reminder is a valuable one.

Third, Rogers and Shoemaker's typology points up the necessity of being aware of the overt organizational demands and expectations and how these may or may not be consonant with tacit requirements and goals. The discrepancy between these may be important in understanding variance in adopter behavior.

Fourth, the consonance-dissonance typology could present an interesting focus for a more indepth study of the role of the user-adopter. The Studies of Implementation year-one data and adoption histories were meant to provide a backdrop for understanding and focusing subsequent data collection. While this refocusing will not be possible, the typology remains a useful starting point for examining the innovation adoption process.

Summary and Implications

The stimulus for this paper originated in the discrepancy between the emphasis on user system participation implicit in a number of widely disseminated change models and the conspicuous absence of such participation chronicled in the adoption experiences of the Studies of Implementation research sites. To give focus to this problematic finding, the paper analyzed the historical and theoretical contexts of the Individually Guided Education (IGE) model, and discussed the implications of these contexts for the potential of participation in the model. The assumptions and limitations of the IGE model were then juxtaposed on Rogers and Shoemaker's (1971) consonant-disonant adopter typology in order to further explicate the

participatory parameters in the IGE context. The usefulness of the typology was also explored in relation to the research sites. The discussion and analysis have implications for the selection of change models, the nature of participatory phenomena, and the IGE adoption process. The concluding section will reflect briefly on these implications.

The preceeding analyses indicate that change models which assume that organizations operate as a unit (i.e., that there is a single conception of policy which is disseminated through a linear structure) are inadequate in depicting or predicting the complexities of the change process. The fidelity approach implied in these models is incomplete since it fails to take into consideration the discrepancy between policy declaration and subordinate attitudes and behaviors. In eight of the ten research sites, the adoption process did not occur through a systematic, rational planning analysis of local needs but rather incorporated elements of chance discovery and serindipity which are unaccounted for by the consensus models. Further, this analysis indicates that even if equivalence could be assumed with relation to the innovation adopted or the organizational context, there is no guarantee that individuals within these organizations respond similarly. There are differential values attached to various costs and benefits of the innovation, and these are by nature idiosyncratic and changeable.

The discussion also reaffirms the value of explicating the theoretical framework which forms the origin for questions of par-

ticipation in a particular organizational system. This is useful not only in understanding the system's participatory potential but also in contributing to a more systematic conceptualization of participation as a complex social phenomenon. For example, the productivity and efficiency participation framework concentrates attention primarily on inter-organizational and group factors with minimal attention to the societal implications of the arguments. While this ideological position neglects to question, for example, whether the intended values and goals are viable within the existing organizational conditions, at the same time the approach gives focus to the critical interrelation of organizational levels. Thus, through analysis of theoretical orientation and organizational context, research questions can begin to integrate issues of organizational participation with issues in society.

Finally, the analysis began to focus critical attention on the role of participation in the IGE adoption process. The technical, pragmatically resolvable nature of conflict within the IGE model may fail to give substantive meaning to the language of teacher participation and may consequently encourage a range of unanticipated implementation outcomes. While it is recognized that this paper represents a post hoc analysis of an observed phenomenon, and thus presents only logically persuasive arguments, it nonetheless raised some curious questions for further exploration. For example, both Lin (1966) and Rogers and Shoemaker (1971), note the possibility that attitude toward an innovation may be a more suitable dependent variable than actual

implementation of the innovation since attitudes may be less manipulable and may more significantly affect continued implementation. In the case of an innovation such as IGE which embodies strong norms for consensus, further investigation of the relationship between user attitudes and overt behavior could prove fruitful. Further, it would be interesting to explore teachers' sense of efficacy with respect to the IGE adoption decision as well as with respect to other relevant decision domains in relation to their attitude toward the IGE innovation and to innovation implementation.

These questions reemphasize the complex, non-linear relationship of the adoption-implementation phases. While it is theoretically possible to discuss teacher participation in the innovation adoption process, this participation only has practical meaning in light of actual implementation within a specific theoretical tradition and organizational context. Based on this discussion of the IGE tradition, the implications of Charles Schultz' commentary that "life is full of choices but you never get any" comprise an interesting focus for future research within this participatory tradition.

BIBLIOGRAPHY

Argyris, C. Integrating the individual and the organization. New York: John Wiley, 1964.

Barrows, L. K.; Klenke, W.; and Heffernan, J. The adoption of innovations in schools. Technical Report 529, Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1979.

Baumol, W. Economic theories and operations analysis. Englewood Cliffs, New Jersey: Prentice-Hall, 1972.

Berman, P., and McLaughlin, M. W. Federal programs supporting educational change, vol. VIII: Implementing and sustaining innovations. Santa Monica, California: Rand Corporation, 1978.

Blumberg, P. Industrial democracy: The sociology of participation. New York, New York: Schocken Books, 1969.

Charters, W. W. Review of curriculum making for the vocations. In G. M. Whipple (Ed.), The foundations and technique of curriculum construction. Bloomington, Indiana: Public Schools Publishing Co., 1926, 365-379.

Coch, L., and French, J. R. P., Jr. Overcoming resistance to change. Human Relations, 1948, 1, 512-533.

Conway, J. A. Test of linearity between teachers' participation in decision making: Their perceptions of their schools as organizations. Administrative Science Quarterly, 1976, 21, 130-139.

Corwin, R. G. Models of educational organizations. In F. N. Kerlinger (Ed.), Review of research in education. Itasca, Illinois: F. E. Peacock Publishers, Inc., 1974, 247-295.

Dachler, J., and Wilpert, B. Conceptual dimensions and boundaries of participation in organizations: A critical evaluation. Administrative Science Quarterly, 1978, 23, 1-39.

Downs, G. W., and Mohr, L. B. Toward a theory of innovation. Administration and Society, 1979, 4, 379-408.

Elmore, R. F. Organizational models of social program implementation. In D. Mann (Ed.), Making change happen? New York: Teachers College Press, 1978, 185-223.

Evers, N. et al. IGE implementor's manual. Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1975.

Festinger, L. A theory of cognitive dissonance. Evanston, Illinois: Row, Peterson, 1957.

Fullan, M., and Pomfret, A. Research on curriculum and instruction implementation. Review of Educational Research, 1977, 47, 335-377.

Greenberg, E. S. The consequences of worker participation: A clarification of the theoretical literature. Social Science Quarterly, 1975, 56, 191-209.

Hall, G. E.; Wallace, R. C.; and Dossett, W. A. A developmental conceptualization of the adoption process within educational institutions. Austin, Texas: University of Texas Research and Development Center for Teacher Education, 1973.

Havelock, R. G. Planning for innovation through dissemination and utilization of knowledge. Ann Arbor, Michigan: Center for Research and Utilization of Scientific Knowledge, University of Michigan, 1969.

Inglis, J. D. Representing the I & R unit. In J. S. Sorenson, M. Poole, and L. H. Joyal (Eds.), The unit leader and individually guided education. Reading, Massachusetts: Addison-Wesley Publishing Company, 1976, 125-150.

Inkpen, W. E.; Ponder, A. A.; and Crocker, R. K. Elementary teacher participation in educational decision making in New Foundland. The Canadian Administrator, 1975, 4, 1-5.

Katz, D. The motivational basis of organizational behavior. Behavioral Science, 1964, 9, 131-146.

Katz, D., and Kahn, R. The social psychology of organizations. New York: John Wiley, 1966.

Klausmeier, H. J. Origin and overview of IGE. In H. J. Klausmeier, R. A. Rossmiller, and M. Saily (Eds.), Individually guided elementary education: Concepts and practices. New York: Academic Press, 1977.

Klausmeier, H. J.; Cook, D. M.; Goodwin, W. L.; Tagatz, G. E.; and Pingel, L. Individualizing instruction in language arts through development and research in R & I units of local schools, 1965-1966. Technical Report, Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1967.

Klausmeier, H. J.; Goodwin, W. L.; Prasch, J.; and Goodson, M. R. Project MODELS: Maximizing opportunities for development and experimentation in learning in the schools. Occasional Paper, No. 3, Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1966.

Klausmeier, H. J.; Quilling, M. R.; Sorenson, J. S.; Way, R. S.; and Glasrud, G. W. IGE: Individually guided education and the multiunit school: Guidelines for implementation. Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1971.

Lewin, K. Group decision and social change. In T. Newcombe and E. Hartley (Eds.), Readings in social psychology. New York: Holt, Rinehart, and Winston, Inc., 1947.

Lin, N. Innovation internalization in a formal organization. Unpublished doctoral dissertation. East Lansing, Michigan: Michigan State University, 1966.

Lipham, J. M., and Fruth, M. J. The principal and individually guided education. Reading, Massachusetts: Addison-Wesley Publishing Company, 1976.

Lipham, J. M.; Klausmeier, H. J.; and Walter, J. E. The multiunit organization. In H. J. Klausmeier, R. A. Rossmiller, and M. Saily (Eds.), Individually guided elementary education: Concepts and practices. New York: Academic Press, 1977.

Lowin, A. Participative decision making: A model, literature critique, and prescriptions for research. Organizational Behavior and Human Performance, 1968, 3, 68-106.

Mayo, E. Revery and industrial fatigue. Journal of Personnel Research (Personnel Journal), 1924, 3, 273-281.

Mohrman, A. M., Jr.; Cooke, R. A.; and Mohrman, S. A. Participation in decision making: A multidimensional perspective. Educational Administration Quarterly, 1978, 14, 13-19.

Morse, N. C., and Reimer, E. The experimental change of a major organizational variable. Journal of Abnormal and Social Psychology, 1956, 52, 120-129.

Nussel, E. J.; Inglis, J. D.; and Wiersma, W. The teacher and individually guided education. Reading, Massachusetts: Addison-Wesley Publishing Company, 1976.

Paulston, R. G. Social and educational change: Conceptual frameworks. Comparative Education Review, 1977, 370-395.

Pellegrin, R. J. Administrative assumptions underlying major innovation. In W. W. Charters (Ed.), The process of planned change in the school's instructional organization. Eugene, Oregon: Center for the Advanced Study of Educational Administration, 1973, 13-33.

Pincus, J. Incentives for innovation in the public schools. Review of Educational Research, 1974, 44, 113-143.

Popkewitz, T. S. The social structure of schools and reform: A case study of IGE/S. Technical Report 400, Madison, Wisconsin: Wisconsin Research and Development Center for Individualized Schooling, 1976.

Rogers, E. M., and Shoemaker, F. F. Communication of innovations: A cross-cultural approach. New York, New York: The Free Press, 1971.

Taylor, F. W. The principles of scientific management. New York: Harper and Brothers, 1911.

Tyler, R. W. Basic principles of curriculum and instruction. Chicago, Illinois: University of Chicago Press, 1949.

Walker, K. F. Workers' participation in management: Problems, practice, and prospect. International Institute for Labor Studies (IILS) Bulletin, 1974, 12, 3-35.

Walter, J. E., and Lipham, J. M. Implementing the multiunit organization. In J. M. Lipham and M. J. Fruth (Eds.), The principal and individually guided education. Reading, Massachusetts: Addison-Wesley, 1976, 27-60.